Environmental Profile

This LCA is calculated according to: ISO 14044, ISO 14040 and EN 15804

Ecochain v3.5.80

Ecochain

Product:	3021510 - KANION PVC Socket Bend 90x88 BN S/S	
Unit:	1 piece	
Manufacturer:	Wavin - PL -Buk - Extra products	

Kanion gutters mean original design, elegance and aesthetics. They are designed to drain 100% of rainwater. It is safe to say that they are intended for the most demanding users.

LCA standard:	EN15804+A2 (2019)
Standard database:	Worldwide - Ecoinvent v 3.6 Cut-Off
Externally verified:	Yes
Issue date:	08-06-2023
End of validity:	08-06-2028
Verifier:	Martijn van Hövell - SGS Search

WAVIN
An Orbia business.

SGS **SEARCH**

This LCA was evaluated according to EN15804+A2. It was concluded that the LCA complies with this standard

The LCA background information and project dossier have been registered in the online Ecochain application in the account Wavin - PL -Buk - Extra products (2020). (☑ = module declared, MND = module not declared).

A1	A2	A3	A4	A5	B1	B2	B3	B4	B5	B6	B7	C1	C2	C3	C4	D
☑	☑	☑	MND	MND	MND	MND	MND	MND	MND	MND	MND	MND	☑	☑	☑	☑

Product stage

A1 Raw material supply A2 Transport A3 Manufacturing

Construction process stage

A4 Transport gate to site
A5 Assembly / Construction installation process

Use stage

B1 Use B2 Maintenance B3 Repair B4 Replacement B5 Refurbishment
B6 Operational energy use B7 Operational water use

End-of-Life stage

C1 De-construction demolition C2 Transport C3 Waste processing
C4 Disposal

Benefits and loads beyond the system boundaries

D Reuse- Recovery- Recycling- potential

Environmental impacts and parameters

GWP-total = EF EN15804+A2 Climate Change [kg CO2 eq]; **GWP-f** = EF Climate change - Fossil [kg CO2 eq]; **GWP-b** = EF EN15804+A2 Climate Change - Biogenic [kg CO2 eq]; **GWP-luluc** = EF EN15804+A2 Climate Change - Land use and LU change [kg CO2 eq]; **ODP** = EF Ozone depletion [kg CFC11 eq]; **AP** = EF Acidification [mol H+ eq]; **EP-fw** = EF Eutrophication, freshwater [kg P eq]; **EP-m** = EF Eutrophication, marine [kg N eq]; **EP-T** = EF Eutrophication, terrestrial [mol N eq]; **POCP** = EF Photochemical ozone formation [kg NMVOC eq]; **ADP-mm** = EF Resource use, minerals and metals [kg Sb eq]; **ADP-f** = EF Resource use, fossils [MJ]; **WDP** = EF Water use [m3 depriv.]; **PM** = EF Particulate matter [disease inc.]; **IR** = EF Ionising radiation [kBq U-235 eq]; **ETP-fw** = EF Ecotoxicity, freshwater [CTUe]; **HTP-c** = EF Human toxicity, cancer [CTUh]; **HTP-nc** = EF Human toxicity, non-cancer [CTUh]; **SQP** = EF Land use [Pt]; **PERE** = Use of renewable primary energy excluding renewable primary energy resources used as raw materials [MJ]; **PERM** = Use of renewable primary energy resources used as raw materials [MJ]; **PERT** = Total use of renewable primary energy resources [MJ]; **PENRE** = Use of non-renewable primary energy excluding non-renewable primary energy resources used as raw materials [MJ]; **PENRM** = Use of non-renewable primary energy resources used as raw materials [MJ]; **PENRT** = Total use of non-renewable primary energy resources [MJ]; **PET** = Total energy [MJ]; **SM** = Use of secondary material [kg]; **RSF** = Use of renewable secondary fuels [MJ]; **NRSF** = Use of non-renewable secondary fuels [MJ]; **FW** = Use of net fresh water [m3]; **HWD** = Hazardous waste disposed [kg]; **NHWD** = Non-hazardous waste disposed [kg]; **RWD** = Radioactive waste disposed [kg]; **CRU** = Components for re-use [kg]; **MFR** = Materials for recycling [kg]; **MER** = Materials for energy recovery [kg]; **EE** = Exported energy [MJ]; **EET** = Exported energy thermic [MJ]; **EEE** = Exported energy electric [MJ]

Statement of Confidentiality

Results

Environmental impact	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
GWP-total	kg CO2 eq	5.16E-1	8.52E-3	1.45E-4	5.24E-1	6.32E-3	3.39E-1	2.03E-3	-2.94E-1	5.78E-1
GWP-f	kg CO2 eq	6.10E-1	8.51E-3	1.46E-4	6.19E-1	6.31E-3	2.21E-1	2.03E-3	-3.33E-1	5.15E-1
GWP-b	kg CO2 eq	-9.52E-2	5.17E-6	-1.54E-6	-9.52E-2	3.83E-6	1.18E-1	2.52E-6	3.99E-2	6.27E-2
GWP-luluc	kg CO2 eq	7.23E-4	3.01E-6	1.49E-7	7.26E-4	2.23E-6	7.96E-5	5.45E-8	-5.12E-4	2.96E-4
ODP	kg CFC11 eq	2.74E-7	1.96E-9	8.26E-12	2.76E-7	1.45E-9	2.21E-8	7.49E-11	-1.43E-7	1.56E-7
AP	mol H+ eq	2.90E-3	4.85E-5	1.47E-6	2.95E-3	3.60E-5	3.91E-4	1.83E-6	-1.34E-3	2.04E-3
EP-fw	kg P eq	2.70E-5	7.00E-8	8.24E-9	2.71E-5	5.20E-8	2.67E-6	2.44E-9	-1.43E-5	1.55E-5
EP-m	kg N eq	5.30E-4	1.73E-5	1.55E-7	5.48E-4	1.29E-5	9.86E-5	1.12E-6	-2.54E-4	4.06E-4
EP-T	mol N eq	5.72E-3	1.91E-4	1.85E-6	5.91E-3	1.42E-4	1.09E-3	7.28E-6	-2.78E-3	4.37E-3
POCP	kg NMVOC eq	1.91E-3	5.46E-5	6.28E-7	1.97E-3	4.05E-5	3.24E-4	2.51E-6	-9.24E-4	1.41E-3
ADP-mm	kg Sb eq	1.61E-4	2.20E-7	1.97E-8	1.62E-4	1.63E-7	1.53E-6	1.85E-9	-6.04E-6	1.57E-4
ADP-f	MJ	1.47E+1	1.31E-1	1.36E-3	1.48E+1	9.69E-2	1.04E+0	5.48E-3	-7.62E+0	8.34E+0
WDP	m3 depriv.	8.53E-1	4.01E-4	5.22E-5	8.53E-1	2.97E-4	3.96E-2	4.21E-5	-4.55E-1	4.38E-1
PM	disease inc.	2.32E-8	7.68E-10	9.08E-12	2.39E-8	5.70E-10	4.87E-9	3.77E-11	-1.24E-8	1.70E-8
IR	kBq U-235 eq	3.03E-2	5.71E-4	1.02E-6	3.09E-2	4.24E-4	3.69E-3	2.51E-5	-1.59E-2	1.91E-2
ETP-fw	CTUe	1.67E+1	1.06E-1	1.21E-2	1.68E+1	7.87E-2	7.74E+0	8.47E-2	-7.42E+0	1.73E+1
HTP-c	CTUh	5.18E-10	3.77E-12	6.17E-13	5.23E-10	2.80E-12	1.25E-10	1.56E-13	-2.05E-10	4.46E-10
HTP-nc	CTUh	1.42E-8	1.26E-10	1.57E-11	1.43E-8	9.38E-11	2.78E-9	1.63E-11	-5.54E-9	1.17E-8
SQP	Pt	1.20E+1	1.12E-1	2.24E-3	1.21E+1	8.29E-2	6.39E-1	1.40E-2	-1.52E+1	-2.36E+0

Resource use	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
PERE	MJ	3.68E+0	1.87E-3	2.40E-2	3.71E+0	1.39E-3	7.33E-2	2.01E-4	-2.69E+0	1.09E+0
PERM	MJ	0	0	0	0	0	0	0	0	0
PERT	MJ	3.68E+0	1.87E-3	2.40E-2	3.71E+0	1.39E-3	7.33E-2	2.01E-4	-2.69E+0	1.09E+0
PENRE	MJ	1.58E+1	1.39E-1	1.44E-3	1.59E+1	1.03E-1	1.10E+0	5.81E-3	-8.21E+0	8.90E+0
PENRM	MJ	0	0	0	0	0	0	0	0	0
PENRT	MJ	1.58E+1	1.39E-1	1.44E-3	1.59E+1	1.03E-1	1.10E+0	5.81E-3	-8.21E+0	8.90E+0
PET	MJ	1.94E+1	1.41E-1	2.55E-2	1.96E+1	1.04E-1	1.18E+0	6.01E-3	-1.09E+1	9.99E+0
SM	kg	0	0	0	0	0	0	0	0	0
RSF	MJ	0	0	0	0	0	0	0	0	0
NRSF	MJ	0	0	0	0	0	0	0	0	0
FW	m3	1.03E-2	1.48E-5	1.46E-6	1.03E-2	1.10E-5	1.10E-3	6.68E-6	-5.78E-3	5.64E-3

Output flows and waste categories	Unit	A1	A2	A3	A1-A3	C2	C3	C4	D	Total
HWD	kg	3.04E-5	3.34E-7	2.73E-13	3.07E-5	2.48E-7	1.73E-6	6.73E-9	-7.35E-6	2.53E-5
NHWD	kg	6.68E-2	8.10E-3	1.05E-6	7.49E-2	6.01E-3	3.99E-2	2.40E-2	-2.84E-2	1.16E-1
RWD	kg	2.72E-5	8.88E-7	1.10E-13	2.81E-5	6.59E-7	4.01E-6	3.55E-8	-1.44E-5	1.84E-5
CRU	kg	0	0	0	0	0	0	0	0	0
MFR	kg	0	0	0	0	0	0	0	0	0
MER	kg	0	0	0	0	0	0	0	0	0
EE	MJ	0	0	0	0	0	0	0	0	0
EET	MJ	0	0	0	0	0	0	0	0	0
EEE	MJ	0	0	0	0	0	0	0	0	0